Pika Research and Monitoring at Lassen Volcanic NP

Typical rocky pika habitat at Lassen

A Species Vulnerable to Climate Change

The American pika (*Ochotona princeps*) is considered an indicator species for detecting ecological effects of climate change. Results from recent studies suggest that in some areas pikas are being lost from lower elevations in response to increased warming, and thus, their suitable habitat is being reduced. The National Park Service has a unique opportunity to assess the vulnerability of pikas to climate change and monitor pika population trends over time. Lassen Volcanic National Park (LAVO) contains typical pika habitat comprised of high elevation talus fields and is one of eight National Park Service units included in a 3-year research project titled "Pikas in Peril." Additionally, the Upper Columbia Basin Network (UCBN) has developed a long-term pika monitoring protocol, which is being implemented in LAVO and three other Pacific West Region parks.

Objectives

"Pikas in Peril" research

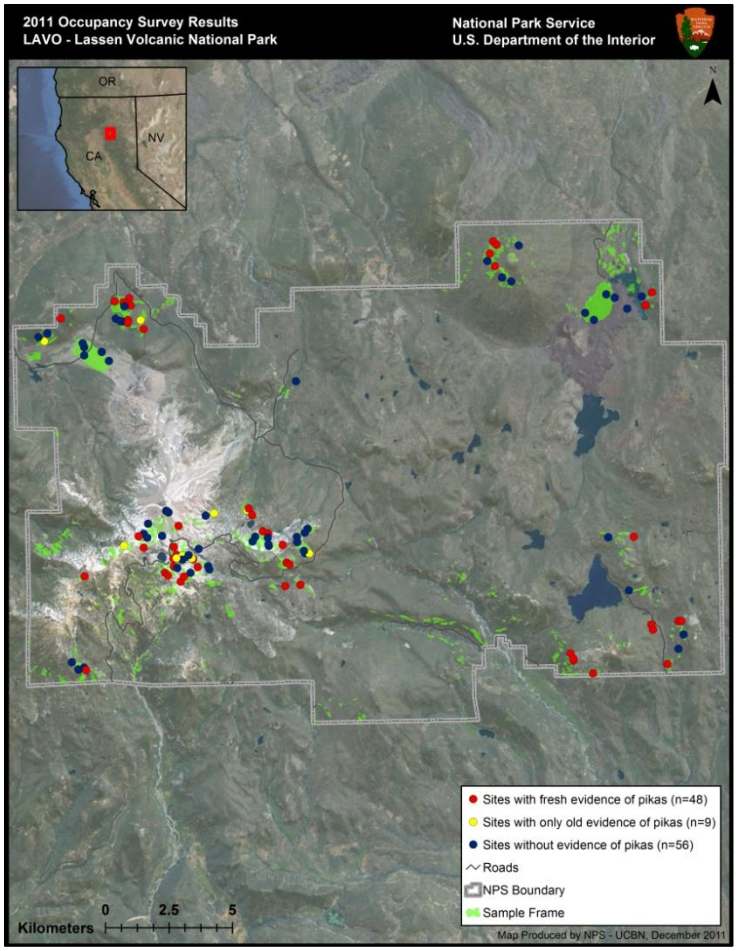
1. Document pika occurrence patterns and predict pika distribution across the eight park units.
2. Measure gene flow and model connectivity of pika populations within five park units (LAVO included).
3. Project climate change effects on the future distribution, connectivity and vulnerability of pika populations in each park unit.

Pika monitoring

1. Determine current patterns of pika site occupancy in the four parks.
2. Determine trends in pika site occupancy patterns in the four parks.

Methods and Preliminary Results

From July to September 2011, 113 randomly-selected sites were searched for evidence of pika occupancy in the form of visual encounters, calls, fresh fecal pellets, and fresh food caches found within the site. Of these sites, 48 (42%) were considered occupied. Of the 2010 sites that were resurveyed (n=38), 8 sites changed occupancy status (i.e., "turned over") with six previously unoccupied sites being colonized and two previously occupied sites being lost in 2011. Additionally, 224 fecal pellet samples have been collected at the park over the two years for genetic analysis.



Map of 2011 survey results for Lassen Volcanic National Park

Timeline and Future Plans

Summer 2011 was the 2nd and final year of field data collection for the research project. Data analysis will continue in 2012 and a final research project report is due in 2012. Furthermore, these sites will be monitored by the park over time to detect trends in pika site occupancy using the NPS peer-reviewed pika monitoring protocol (Jeffress et al. 2011). Additional details and results from these efforts will be available on the websites listed below.

Contact Information

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